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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,757	10/06/2000	Joseph B. Rowlands	5580-00700	2137

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EXAMINER

VO, TIM T

ART UNIT	PAPER NUMBER
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2112

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/680,757

Applicant(s)

ROWLANDS ET AL.

Examiner

Tim T. Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8,10-14,16-22,24-28,30-33 and 35-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8,10-14,16-22,24-28,30-33 and 35-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Part III DETAILED ACTION

Notice to Applicant(s)

This application has been examined. Claims 1-6, 8, 10-14, 16-22, 24-28, 30-33, and 35-45 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8, 10-14, 16-22, 24-28, 30-33, and 35-45 are rejected under 35 U.S.C. § **103(a)** as being unpatentable over Hagersten et al. patent number 5,987,549 in view of Lomelino et al. patent number 5,867,675. Referred hereinafter "Hagersten" and "Lomelino".

As for claims 1, 10, 16, 24 and 30, Hagersten teaches a system comprising:

a bus (see figure 1, bus 20);

a plurality of agents coupled to the bus (see figure 1, board 1 to board N), each of the plurality of agents configured to arbitrate for the bus (see column 5 lines 51-67, wherein each board 50 comprises an address controller 180 which includes an arbitration unit 186 for competing arbitration for sharing the bus), but only one of the plurality of agents is selected as a predetermined default agent to be alone given default grant of the bus without arbitrating if no other of the plurality of agents for the bus (see

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figure 1, board 1 to board N and column 7 lines 55-67, wherein the example refers board 0 means the position of the board is in front of the board 1, 2, 3 and on. Further, the example demonstrates the round robin arbitration by making sure that one circuit board will always be a default winner when there are no requests from other boards and the default is the board 0), and wherein the arbitration scheme includes an arbitration priority of the plurality of agents (see column 7 lines 55-67), in which the default agent is changed from a current priority in the arbitration priority to a lower priority in arbitration priority in response to using the bus by default grant (see column 7 lines 55-67, wherein the default winner is board 0 when there are no requests and column 9 lines 37-41, Hagersten teaches when a board wins an arbitration, the winning board will have the lowest priority in the next state).

Hagesten does not expressly teach wherein the default agent is remained fixed. However, it is known in the arbitration concept to select a default agent to remained fixed as Lomelino discussed in column 6 lines 36-40. Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Lomelino into the teachings of Hagesten because Lomelino providing a simple arbitration scheme by selecting a predetermined fixed default agent thereby Lomelino would reduce arbitration calculation steps for selecting a new default agent as taught by Hagesten. Thus, Lomelino teachings would increase the Hagesten system performance.

As for claims 2, 11, 17, 25 and 40-41, Hagersten teaches the first agent is the default winner independent of which the plurality of agents was last to use the bus (see column 7 lines 55-67).

As for claims 3, 13, 18 and 27, Hagersten teaches a plurality of request signals (see figures 4), each of the plurality of the request signals correspondingly to a respective agent of the plurality of agents and used by the respective agent to indicate whether or not the respective agent is arbitrating for the bus (see figure 4), and wherein the first agent is coupled to receive at least one of the plurality of request signals correspondingly to other ones of the plurality of agents (see figures 1, 4), and wherein the first agent is configured to determine if none of the plurality of agents is arbitrating responsive to the plurality of request signal (see column 7 lines 55-67).

As for claims 4-5, 12, 19-20, 26 and 32, Hagersten teaches the us is a split transaction bus including an address bus and a data bus (see figure 2, bus 20, including address bus 360, data bus 70), and wherein the first agent is the default winner of the data bus responsive to none of the plurality of agents arbitrating for the data bus (see column 7 lines 55-67).

As for claims 6, 21 and 31, Hagersten teaches wherein the first agent is configured to arbitrate for the bus if at least one other of the plurality of agent is arbitrating for the bus during the arbitration and the first agent has information to transfer on the bus (see column 7 lines 55-67).

As for claims 8, 22, 28 and 33 Hagersten teaches one or more arbiters configured to perform the arbitration (see figure 3, arbiter 186), wherein the one or

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more arbiters are configured to maintain a state indicative of an arbitration priority of the plurality agents, and wherein an agent winning an arbitration is changed to lowest priority in the arbitration priority (see column 9 line 38-41).

As for claims 14, 35-39 and 42-45, Hagersten teaches the arbiter comprising a storage coupled to the second circuit, the storage storing indication of the relative priority of the other ones of the plurality of agents to the first agent, and wherein the winner of the arbitration is updated to lowest priority (see figures 3-4 and column 9 lines 38-41).

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim T. Vo whose telephone number is 571-272-3642. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 571-272-3632. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



3/11/05

Tim T. Vo
Primary Examiner
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